

Wastewater Treatment Capital Planning Performance Audit

King County Auditor's Office

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Web link to audit: <http://www.metrokc.gov/auditor/2003/AreportWTD.pdf>



Summary of Findings

- WTD capital program management practices vary in quality
 - Some practices inconsistent with public industry standards for best management
 - Improvements proposed or underway
- Information/data to support improved management, oversight, and accountability needs to be presented in a more useable format




Background: King County Wastewater Treatment Division

- Provides wastewater treatment services to 18 cities and 15 sewer districts
- Serves 1.4 million citizens in King, Pierce, and Snohomish Counties
- Implements Regional Wastewater Services Plan
 - Adopted by council in 1999
 - 30-year capital improvement plan



Audit Objective 1

- How well does WTD manage its capital program?
 - Review industry best practices
 - Determine whether WTD follows these practices – *review sample of WTD projects*
 - Identify areas for improvement




Objective of Best Practices: Achieve goals at lowest life-cycle cost and least risk

■ Six key best practices:

- ❑ Determine gap between capacity and planned results
- ❑ Evaluate alternatives
- ❑ Integrate organizational goals into decision making
- ❑ Establish review and approval framework supported by analysis
- ❑ Track costs, schedule, performance
- ❑ Evaluate results/incorporate lessons learned

Overview of WTD Performance

EXHIBIT B Consistency of WTD Performance with Best Management Practices				
BEST PRACTICE CRITERION	Meets	Partially Meets	Partially Meets	Does Not Meet
		Improvements In Progress	Improvements Proposed	Limited or No Improvements Proposed
1. Determine the gap between the capacity of current assets and planned results.		✓		
2. Evaluate alternative approaches to achieving results.			✓	
3. Integrate organizational goals into the capital decision-making process.			✓	
4. Establish a review and approval framework supported by analysis.			✓	
5. Track project costs, schedule and performance			✓	
6. Evaluate results and incorporate lessons learned.				✓
SOURCE: King County Auditor's Office 2003				



Determine the gap between existing capacity and planned results

- Understand capacity impacts and asset condition
- Ensure optimal timing of refurbishment

Findings:

- No comprehensive system to analyze assets
- WTD Improvements Underway
 - Centralized asset management function
 - Pilot inventory projects
 - Conveyance inventory completed

Establish a review and approval framework supported by analysis

- Decisions supported with detailed economic analysis
 - Life-cycle cost analysis
 - *Discount rate
 - *Cost of capital
 - *Sensitivity analysis
 - Social and rate impacts identified
- Rank projects/investments

Findings:

- Economic analysis guidelines lacking
- Countywide discount rate policy absent
- Project ranking process newly established in 2003



Evaluate results and incorporate lessons learned

- Monitor project scope, schedule, and budget
 - Cost and timeline estimates met
 - Origin and cost of change orders understood
 - Technical goals of project met

Finding:

- Post project reviews conducted on ad-hoc basis.



Recommendations to enhance WTD initiatives

1. Integrate existing asset condition into analysis of capital planning alternatives.
2. Develop analysis guidelines and countywide discount rate policy.
3. Report impact on rates for major projects.
4. Refine project prioritization and ranking to include consideration of rate impact and existing asset information.
5. Implement post project review.



Audit Objective 2

- Develop a framework for providing wastewater capital project and capital program data to decision makers.



Questions to Answer:

- What wastewater data do decision makers need?
- Can WTD data systems track and manage this data?
- What is the best way to report this data to decision makers?



What Data Do Decision Makers Need?

- Data user survey
 - Identified key data elements needed by councilmembers, council staff, and OMB staff
- Best management practices review
 - Identified key data elements needed to support best management practices
- Wastewater capital project prioritization process review
 - Identified key data elements needed to support project selection and prioritization at WTD
- Data needs were almost identical



What Data Do Decision Makers Need?

■ Program Summary Data

☐ Cost and schedule overruns

- By project category, size, duration, year or initiation, year of completion

☐ Change orders

- By cost adjustment category, including avoidable costs, unavoidable costs, and change orders as a percentage of the original contract

■ Project-Specific Data

- ### ☐ Information on project background, scope, schedule, and budget



Findings – Data Management

- The WTD has most data that decision makers need. However...
 - Only a portion is tracked centrally
 - The remainder is scattered across reports and data systems
 - Control is inadequate
 - There is no standard protocol for data entry and there is no data dictionary
 - Tracked data is underutilized in assessing performance program-wide



Recommendations – Data Management

6. The WTD should ensure that its new data system – currently in development – can capture, track, and report all needed data.
7. The WTD should establish a standard data management protocol to ensure data quality.
8. The WTD should develop standard processes for analyzing its data and providing clear overviews of program performance.



Findings – Data Reporting

- The WTD meets most reporting requirements specified by code.
However...
 - Existing reporting requirements do not meet the needs of decision makers
 - Existing reporting requirements may be unduly burdensome for the agency



Recommendations – Data Reporting

9. The WTD should work with decision makers to refine and/or implement the sample reporting data set developed by our office.
10. The WTD should work with decision makers to update code requirements for wastewater capital reporting.



Conclusion

- Final recommendation

- 11. WTD report on progress October 2004

- KCAO wishes to thank management and staff of the:

- ☐ Wastewater Treatment Division
 - ☐ Office of Management and Budget
 - ☐ Finance and Business Operations Division, DES
 - ☐ Councilmembers and staff